DISTRIBUTION
UNIT MANAGERS' MEETING
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS

Bryan Foley ..... DOE-RL RP (A5-13)
Marvin Furman ..... DOE-RL RP (A5-13)
Ellen Mattlin ..... DOE-RL EAP (A2-15)
Mike Thompson ..... DOE-RL RP (A5-13)
Arlene Tortoso ..... DOE-RL RP (H0-12)
Lisa Treichel ..... DOE-HQ (EM-442)

Dennis Faulk ..... EPA (B5-01)

Brenda Jentzen ..... WDOE (Kennewick) (B5-18)
Zelma Maine ..... WDOE (Kennewick) (B5-18)
Tina Masterson-Heggen ..... WDOE (Kennewick) (B5-18)
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Lynn Curry ..... BHI (H0-19)
Garrett Day ..... BHI (H0-19)
Bruce Ford ..... BHI (H0-21)
Alison Bryan ..... BHI (H0-21)
Greg Mitchem ..... BHI (H0-19)
Joan Woolard ..... BHI (H0-02)

Tim Lee ..... CHI (H9-02)
Virginia Rohay ..... CHI (H0-19)
L. Craig Swanson ..... CHI (H9-02)
Mary Todd ..... CHI (H9-03)
Curtis Wittreich ..... CHI (H9-03)

Stuart Luttrell ..... PNNL (K6-96)
Mark Sweeney ..... PNNL (K6-81)

Administrative Record (2) ..... BHI (H0-09)

Please inform Alison Bryan – BHI (372-9192)
of deletions or additions to the distribution list.

Meeting Minutes Transmittal/Approval
Unit Managers' Meeting
200 Area Groundwater and Source Operable Units
3350 George Washington Way, Richland, Washington
October 2001

098362

APPROVAL: _____ Date 2/28/02
Bryan Foley, 200 Area Unit Manager, DOE/RL (A5-13)

APPROVAL: _____ Date 5 Mar. 02
Arlene Tortoso, Groundwater Unit Manager, DOE/RL (H0-12)

APPROVAL: _____ Date 3-11-02
Dennis Faulk, 200 Area Unit Manager, EPA (B5-01)

APPROVAL: _____ Date 4-9-02
John Price, 200 Area Unit Manager, Ecology (B5-18)

Meeting minutes are attached. Minutes are comprised of the following:

Attachment 1	--	Agenda
Attachment 2	--	Attendance Record
Attachment 3	--	200 Area Current Action Log
Attachment 4	--	200 Area UMM Minutes – October 2001
Attachment 5	--	Graphs of Carbon Tetrachloride Concentrations
Attachment 6	--	Comparison of Maximum Carbon Tetrachloride Rebound Concentrations
Attachment 7	--	Carbon Tetrachloride Rebound Concentrations Table
Attachment 8	--	Approval of the Carbon Tetrachloride Expedited Response Action Soil Vapor Monitoring Plan for October 2001 Through March 2002
Attachment 9	--	*Preliminary Data Summary From the 216-T-26 Crib and 216-B-38 Trench*
Attachment 10	--	Approved 200-CS-1 Chemical Sewer Operable Unit Remedial Investigation/Feasibility Study Waste Control Plan

Prepared by: Alison Bryan, BHI GW/VZ Integration Project (H0-19) Date 1-29-02

Concurrence by: Bruce Ford, BHI GW/VZ Integration Project (H0-19) Date 2/28/02

UNIT MANAGERS' MEETING AGENDA

3350 George Washington Way
October 25, 2001

9-11 a.m. **200 Area** **Room 1B45**

General (10 minutes)

- Outstanding Action Items (attached)
- Open for regulatory topics or action items

200-BP-5 (10 minutes)

- *Status on Groundwater Sampling and Analysis Plan*

200-UP-1 (10 minutes)

- Pump and Treat treatment system operation's status
- Monitoring well installation and characterization sampling status
- Open discussion

200-ZP-1 (10 minutes)

- Status of Well Drilling at PFP
- Pump and Treat treatment system operation's status
- Open discussion

200-PW-1 Plutonium/Organic-Rich Process Waste OU (10 minutes)

- *SVE Preliminary Summary for FY01*
- Monthly Soil Vapor Monitoring
- Approval of Soil Vapor Monitoring Plan for FY02
- Soil Vapor Extraction system
  - Active system status
  - Passive system status
  - Open discussion
- RI/FS Work
  - Work Plan Status (Draft A due to regulators 12/31/01)
  - Dispersed CCl4 Plume DQO Status
- *Schedule CCl4 strategy and sampling strategy meetings*

200-CW-1 Gable/B Pond and Ditches Cooling Water OU (5 minutes)

- Feasibility Study Status

200-CS-1 Chemical Sewer OU (5 minutes)

- Status of 216-A-29 SAP for CHG
- Air Monitoring Plan and Waste Control Plan
- Status Fieldwork (Test Pits)

200-CW-5 OU (5 minutes)

- Remedial Investigation
  - Surface geophysical surveys complete
  - Final Hazard Classification in preparation

200-DW-2 OU (5 minutes)

- Approval of Rev. 0 Work Plan

Groundwater and Source Operable Units Unit Managers' Meeting
Official Attendance Record – 200 Area
October 25, 2001

098362

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Arlene Tortoso	DOE-WMD	200 Area CCU/ GW PM	373-9631
Craig Cameron	EPA		276-8665
Matt Mills	Ecology	CS-1	736-5721
Stuart Luttrell	PNNL	Geologist	376-6023
Mark Byrnes	BHI	Groundwater	372-9267
Craig Swanson	CHI	200 Area GW	372-9353
BRYAN L. TOLEY	DOE-RL	Source 200 Area	376-7087
Lee J Farrell	BHI	GW/VZ	372-9377
Alison Bryan	BHI	GW/VZ	372-9192
Virginia Rohay	CHI	CCU tech support	372-9100
Garrett Day	BHI	Groundwater ops	372-9571
Curt Wittreich	CHI	200 Area source	372-9586

200 Area Unit Managers' Meeting
OPEN ACTION ITEMS & TRACKING

Action #	Action/Subject	Assigned To	Owed To	Assigned Date	Original Due Date	Adjusted Due Date	Date Complete	Status
16	Distribution of UMM minutes for January, February, March, April, May, and June 2001	Bruce Ford, BHI	Dennis Faulk, EPA	06/28/2001				In review

Attachment 3

MEETING MINUTES
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS
UNIT MANAGERS' MEETING -- 200 AREA
October 25, 2001

Attendees: See Attachment #2

Agenda: See Attachment #1

Topics of Discussion:

1. ***General***

- Outstanding Action Items – (see attached) The minutes have been reviewed and prepared for approval signature.

- Open for Regulatory Topics or Action Items – The change package for 11 new RCRA wells will be sent to Ecology soon.

2. ***200-BP-5***

- Status on Groundwater Sampling and Analysis Plan – PNNL requested a status from EPA on the Sampling Analysis Plan. EPA will be meeting to discuss issues.

3. ***200-UP-1***

- Pump and Treat Treatment Systems Operations Status – The extraction well is running at 47 gallons per minute (gpm) and it needs to be running at 50 gpm. However, attempts to increase the water flow resulted in a shut down because the well was going dry. There was a shut down at well 25 on the ERDF outage. The upgrade work contract was awarded and the well will be re-developed in November. The amount of water was discussed. ETF can take 50 – 55 gpm. Putting the second well on-line will put the total above 50 gpm. The well may have to be shut down when the upgrades begin.

4. ***200-ZP-1***

- Status of Well Drilling at PFP – Drilling started on the well at PFP in October. Currently, the drilling is at a depth of 129 feet. At 129 feet, the driller determined that the well was deviating on the vertical to the east. The casing was pulled back and it will be re-drilled. A casing sphere will be used. A casing sphere is a tool that is lowered to the bottom of the casing, expanded and pushes against the casing wall. Then, the casing is pulled up with the drill string. Five soil samples and 6 soil vapor samples were collected. The only sample to show carbon tetrachloride was the sample taken at 80 feet.

- Pump and Treat Treatment System Operations Status – The FY01 work is done. The valves are upgraded to operate at a finer capacity. The over-all flow was at 150 to 160 last week and is presently at 170.

- Open Discussion – No discussion.

200-PW-1 Plutonium/Organic-Rich Process Waste OU

- Soil Vapor Extraction System Preliminary Summary for FY01 –
- Monthly Soil Vapor Monitoring – A handout was distributed and reviewed by Virginia Rohay regarding vapor extractions. The Soil Vapor Extraction System operated from April 2001 through September 2001. (Attached)
- Approval of Soil Vapor Monitoring Plan for FY02 – The Soil Vapor Monitoring Plan for FY02 was approved. (Attached)
- Soil Vapor Extraction System –
  - Active System Status – The active system will be re-activated in April.
- RI/FS Work –
  - Work Plan Status – DOE review of the Work Plan is underway. Decisional draft copies were received October 24, 2001, on schedule. An over-view briefing is planned for Monday, October 29, 2001, with DOE-HQ.
  - Dispersed CCl4 Plume DQO Status and Schedule – No discussion.
- Schedule CCl4 Strategy and Sampling Strategy Meetings – A meeting with EPA is scheduled for October 31, 2001, regarding the over-all CCl4 strategy.

5. ***200-CS-1 Chemical Sewer OU***

- Status of 216-A-29 SAP for CHG – The SAP for the CHG test pit has been approved by Ecology with changes and is currently being finalized for issuance. Ecology provided approval, via email, to proceed with the fieldwork.
- Air Monitoring Plan and Waste Control Plan – The AMP and the WCP were approved by Ecology. The approved waste control plan was submitted to DOE at the meeting. (Attached)
- Status Fieldwork (Test Pits) – Test pit construction is scheduled to begin on October 29, 2001. Ecology requested a visit to field operations. A schedule of operations will be sent to DOE and a visit will be arranged.
- A-29 Ditch – Soil samples collected from the CHG test pit will be analyzed for hydrazine. A contained-in determination will be prepared for hydrazine following the receipt of the laboratory data. A rapid turn around will be requested from the laboratory for the hydrazine data.

6. ***200-CW-5 U Pond/Z Ditches Cooling Water OU (5 minutes)***

- Remedial Investigation

  - Surface geophysical surveys complete – The surface geophysical surveys have been completed. Surveys were performed to define the sub-surface boundaries of the 216-Z-11 Trench.

  - Final Hazard Classification in preparation – A Final Hazard Classification is required because of the relatively high levels of plutonium and americium in the soil.

7. ***200-PW-2 Uranium-Rich Process Waste OU (5 minutes)***

- Approval of Rev. 0 Work Plan – The Rev. 0 Work Plan has been submitted to Ecology for approval. DOE indicated that a discussion with Ecology is needed on how to proceed with the Work Plan approval considering the Agreement In Principle.

8. ***200-TW-1 Scavenged and 200-TW-2 Tank Waste OUs (10 minutes)***

- Status of Field Activities –

  - Preliminary data summary from 216-T-26 Crib and 216-B-38 Trench boreholes

  - Status of 216-B-7A borehole – A handout of characterization available to date on the 216-T-26, 216-B-38 and 216-B-7A boreholes was distributed and reviewed. (Attached)

- Supplemental Soil Sample Requests –

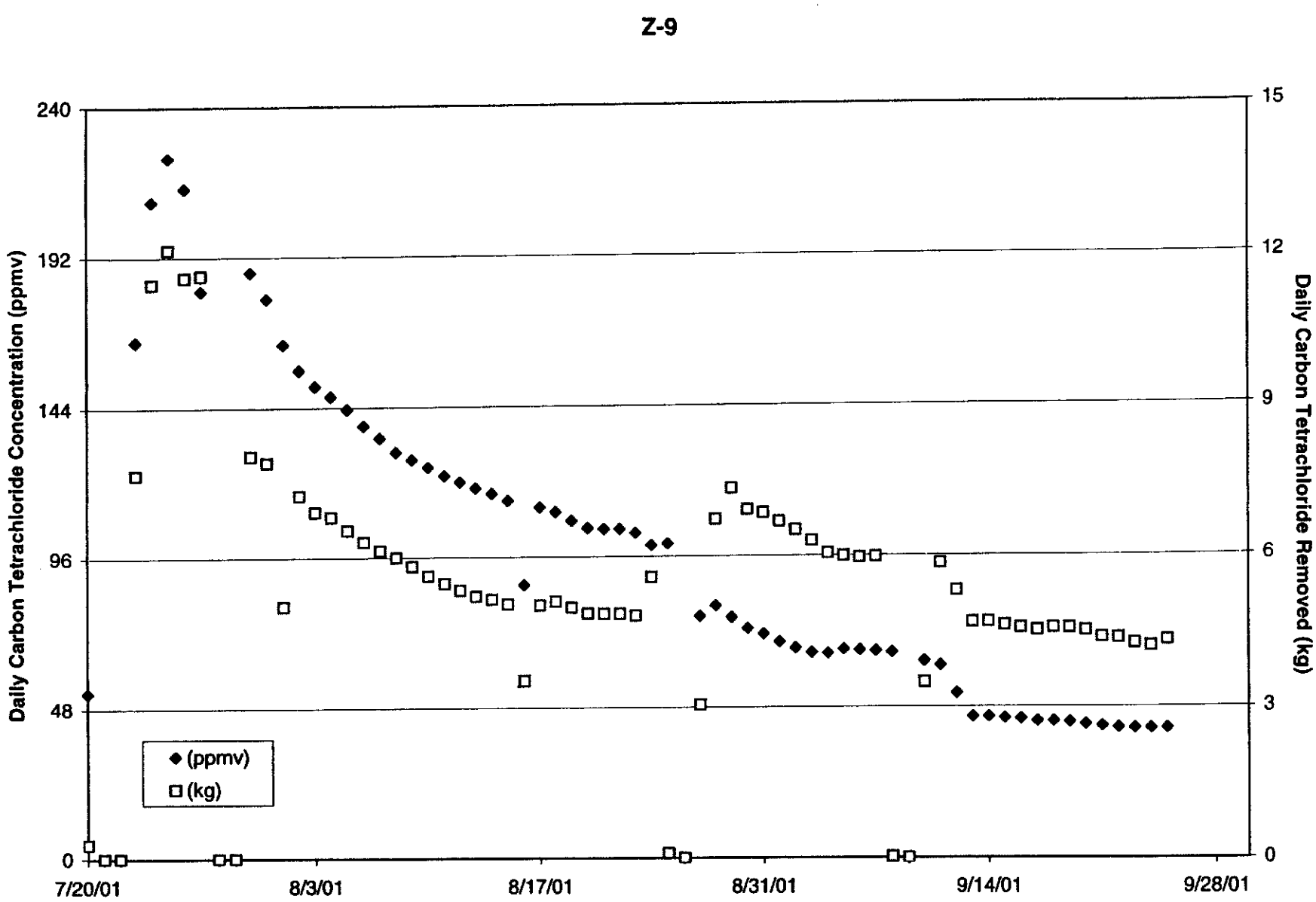
  - PNNL S&T – Soil samples were provided to PNNL S&T Project from the 216-B-7A borehole.

  - ORP/RPP – Soil samples from the 216-B-7A borehole were also provided to ORP/RPP tank farm vadose zone project. The 216-B-7A borehole has served the GW/VZ Integration Project well in providing soil samples and data for multiple projects.

9. ***Other***

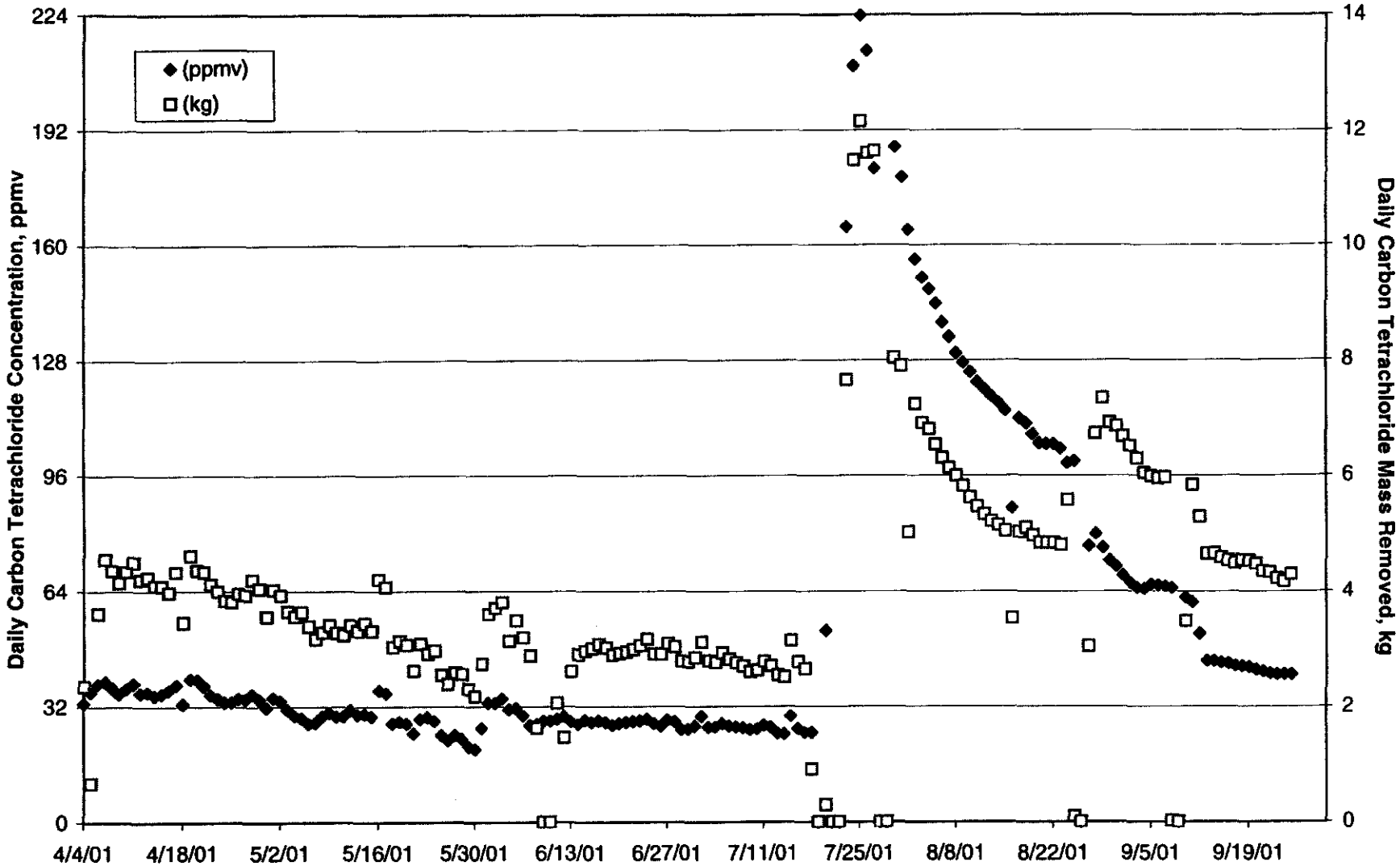
- 200-MW-1 and 200-LW-1 – Regulator DQO meetings are scheduled for Monday, October 29, 2001. DOE requested that 200-MW-1 and 200-LW-1 be added to the agenda for the next UMM.

Preliminary Data

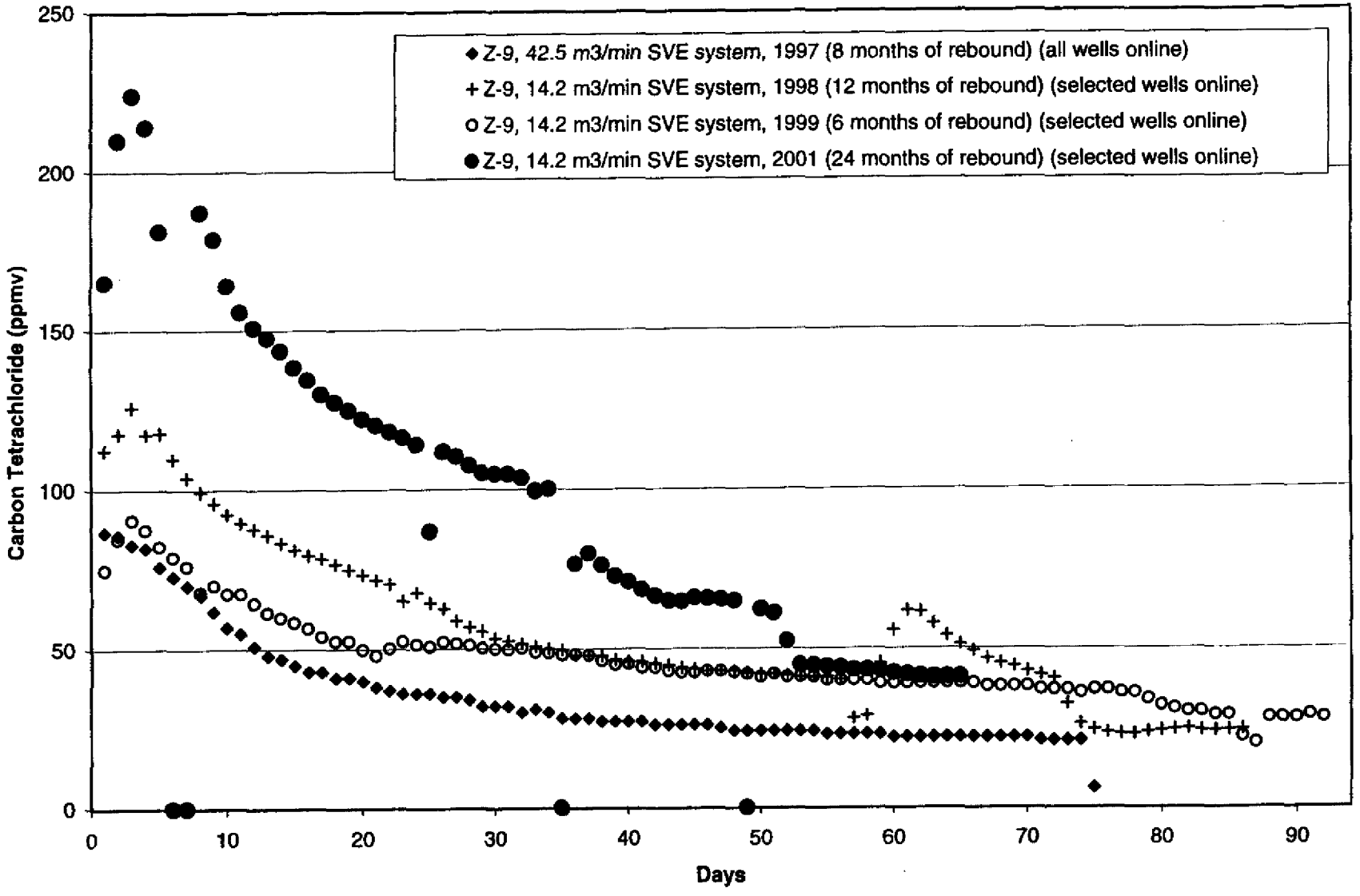


Attachment 5

Preliminary Data



Preliminary Data



cf01to99to98to97.xls: allZ-9

Comparison of Maximum Carbon Tetrachloride Rebound Concentrations Monitored at 200-PW-1 (200-ZP-2) Soil Vapor Extraction Sites FY 1997 - FY 2001

200-PW-1 (200-ZP-2) Location (Well or Probe) /feet bgs	Site	Zone	November 1996 - July 1997 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	October 1997 - September 1998 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1998 - September 1999 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 1999 - June 2001 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound	July 2001 - September 2001 Maximum Rebound Carbon Tetrachloride (ppmv)	months* of rebound
79-03/ 5 ft	Z-18	1	0	8	0	3	0	12				
79-06/ 5 ft	Z-1A	1	not measured		not measured		1.4	12				
79-11/ 5 ft	Z-1A	1	0	8	0	6	2.9	12				
86-05/ 5 ft	Z-9	1	not measured		not measured		0	3				
86-05-01/ 5 ft	Z-9	1	not measured		not measured		0	3				
86-06/ 5 ft	Z-9	1	1.3	8	0	9	1.9	6				
87-05/ 5 ft	Z-1A	1	not measured		0	3	1.0	12				
87-09/ 5 ft	Z-1A	1	not measured		1.5	3	2.6	12				
94-02/ 5 ft	Z-9	1	0	6	not measured		1.4	3				
95-11/ 5 ft	Z-9	1	0	8	2.1	9	2.5	6				
95-12/ 5 ft	Z-9	1	1.1	8	1.5	9	1.3	6				
95-14/ 5 ft	Z-9	1	not measured		not measured		0	3				
CPT-13A/ 9 ft	Z-1A	2	not measured		0	6	1.0	12				
CPT-16/ 10 ft	Z-9	2	not measured		0	9	1.5	6				
CPT-17/ 10 ft	Z-9	2	not measured		4.2	9	5.1	6	6.6	24		
CPT-18/ 15 ft	Z-9	2	not measured		6.5	9	5.0	6	5.2	24		
CPT-31/25 ft	Z-1A	2	not measured		0	6	0	12				
CPT-16/ 25 ft	Z-9	2	not measured		not measured		not measured		1.8	24		
CPT-32/ 25 ft	Z-1A	2	not measured		9.1	6	10	12	16.5	18	0	3
CPT-4A/ 25 ft	Z-1A	2	not measured		not measured		not measured		3.5	0	0	3
CPT-30/ 28 ft	Z-18	2	not measured		not measured		3.2	12	1.4	18	0	3
CPT-13A/ 30 ft	Z-1A	2	2.2	8	not measured		not measured		3.6	18	2	3
CPT-7A/ 32 ft	Z-1A	2	not measured		2.3	6	5.4	12	6.2	18	4.2	3
CPT-27/ 33 ft	Z-9	2	1.2	8	not measured		not measured		2.8	24		
CPT-1A/ 35 ft	Z-18	2	2.0	8	1.4	3	3.0	12	7.7	18	11.3	3
CPT-28/ 40 ft	Z-9	2	40.1	8							56.5	0
CPT-33/ 40 ft	Z-1A	2	not measured		2.0	3	2.6	12			2	3
CPT-34/ 40 ft	Z-18	2	2.3	8	not measured		1.7	12	1.9	0	2.2	3
CPT-21A/ 45 ft	Z-9	2	65.6	8	52.7	9	57	3	127	24	133	0
W15-220ST/ 52 ft	Z-9	2	2	8	not measured		1.8	3	2.5	24		
CPT-28/ 60 ft	Z-9	2	not measured		1.5	0	3.7	3				
CPT-9A/ 60 ft	Z-9	2	45.5	8	41.1	0	44	3	68	24	45.3	0
CPT-30/ 68 ft	Z-18	2	1.7	8	not measured		3.0	12				
CPT-32/ 70 ft	Z-1A	2	7.4	8							4.3	3
CPT-13A/ 70 ft	Z-1A	2	5.2	8	not measured		5.8	12				
CPT-24/70 ft	Z-9	2	not measured		3.2	9	3.8	3				
W15-219SST/ 70 ft	Z-9	2	14.6	8	not measured		7.6	3	7.8	24		
CPT-18/ 75 ft	Z-9	2	not measured		not measured		not measured		18	24		
CPT-4A/ 75 ft	Z-1A	2	not measured		not measured		not measured		not measured		7.1	3
CPT-31/ 76 ft	Z-1A	2	4.0	8	not measured		4.2	12				
CPT-33/ 80 ft	Z-1A	2	5.8	8	not measured		9.2	12				
W15-82/ 82 ft	Z-9	2	28.9	8	5.5	9	46	6	55	24		
W15-95/ 82 ft	Z-9	2	not measured		15.3	9	39	6	43	21		
CPT-21A/ 86 ft	Z-9	2	221	8	206	9	148	6	195	24	186	0
CPT-34/ 86 ft	Z-18	2	36.3	8	5.9	3	0	12				
W15-218SST/ 86 ft	Z-9	2	not measured		not measured		0	3				
CPT-28/ 87 ft	Z-9	2	280	8	230	9	203	6	224	24	225	0
CPT-1A/ 91 ft	Z-18	2	3.9	8	not measured		4.2	12			8.3	3
CPT-4A/ 91 ft	Z-1A	2	not measured		7.7	3	14	12			7.5	3
CPT-9A/ 91 ft	Z-9	2	103	8	34.5	9	72	3			74.3	0
W15-85/ 92 ft	Z-9	2	not measured		not measured		not measured		51	24		
W18-252SST/ 100 f	Z-1A	2	38.2	8	17.8	3	24	12				
W18-152/ 113 ft	Z-12	2	46.8	8	11.1	3	33	12	25	18	25.7	3
W15-217/ 115 ft	Z-9	3	797	8	630	9	561	6	442	24		
CPT-24/ 118 ft	Z-9	3	44.6	8	37.7	9	37	6	35	24		
W15-220SST/ 118 f	Z-9	4	21.9	8	not measured		36	3	34	24		
W18-158L/ 123 ft	Z-1A	3	not measured		143	3	492	12	284	18	163	3
W18-167/ 123 ft	Z-1A	3	323	8	79.7	3	226	12	248	18	283	3
W15-219SST/ 130 f	Z-9	4	298	8	not measured		47	3	54	24		
W18-249/ 134 ft	Z-18	3	206	8	20.4	3	215	12	176	18	196	3
W18-248/ 136 ft	Z-1A	3	288	8	66.3	3	177	12	214	18	306	3
W15-219SST/ 155 f	Z-9	5	59.6	8	not measured		24	3	44	24		
W15-220SST/ 185 f	Z-9	5	14.5	8	not measured		13	3	15	24		
W15-6L/ 189 ft	Z-9	6	22.6	8	17.8	9	1.3	6				
W15-9L/ 189 ft	Z-9	6	18.3	8	15.0	9	15	6	20	21		
W18-7/ 200 ft	Z-1A	6	28.5	8	17.3	3	29	12				
W18-6L/ 208 ft	Z-1A	6	36	8	31.3	6	15	12				
W18-12/ 210 ft	Z-18	6	not measured		3.8	3	19	12				

* - based on location (Z-1A/18/12 or Z-9) of monitoring point; specific points may be beyond SVE zone of influence during particular operating configurations

- Z-18 and Z-12 wells off-line Oct 96 - Apr 98
- CPT-1A, CPT-9A, and possibly CPT-7A appeared to be beyond SVE zone of influence in Oct 96 based on differential pressure (BHI-01105, p. 6-1)
- CPT-9A, CPT-21A, CPT-28 beyond SVE zone of influence in May 98 based on CCl4 concentrations and airflow modeling based on measured vacuums (BHI-01105, p. 6-1)

Carbon Tetrachloride Rebound Concentrations
Monitored at 200-PW-1 (200-ZP-2) Soil Vapor Extraction Sites
July 2001 - September 2001

200-PW-1					
(200-ZP-2)			07/31/2001	08/30/2001	09/25/2001
Location	Site	Zone			
(Well or Probe)			CCl4	CCl4	CCl4
/feet bgs			(ppmv)	(ppmv)	(ppmv)
CPT-32/ 25 ft	Z-1A	2	0	0	0
CPT-4A/ 25 ft	Z-1A	2	0	0	0
CPT-30/ 28 ft	Z-1A	2	0	0	0
CPT-13A/ 30 ft	Z-1A	2	0	0	1.9
CPT-7A/ 32 ft	Z-1A	2	3.8	4.2	4.1
CPT-1A/ 35 ft	Z-12	2	11.3	10.5	9.5
CPT-28/ 40 ft	Z-9	2	52.8	54.8	56.5
CPT-33/ 40 ft	Z-1A	2	0	1.1	1.6
CPT-34/ 40 ft	Z-18	2	1.5	1.8	2.2
CPT-21A/ 45 ft	Z-9	2	90.9	133	126
CPT-9A/ 60 ft	Z-9	2	38.1	39	45.3
CPT-32/ 70 ft	Z-1A	2	4.0	3.9	4.3
CPT-4A/ 75 ft (b)	Z-1A	2			7.1
CPT-21A/ 86 ft	Z-9	2	179	186	184
CPT-28/ 87 ft	Z-9	2	167	225	220
CPT-1A/ 91 ft	Z-12	2	5.7	6.8	8.3
CPT-4A/ 91 ft (a)	Z-1A	2	7.5	7.5	
CPT-9A/ 91 ft	Z-9	2	57.2	62.3	74.3
W18-152/ 113 ft	Z-12	2	10.2	22.8	25.7
W18-158L/ 123 ft	Z-1A	3	90.6	163	159
W18-167/ 123 ft	Z-1A	3	283	229	248
W18-249/ 134 ft	Z-18	3	44.6	161	196
W18-248/ 136 ft	Z-1A	3	306	274	236
(a) Water noted in line at CPT-4A/ 91 ft, 7/31/01, 8/30/01.					
This is the first time that water has been encountered during ZP-2 sampli					
(b) Substitute for CPT-4A/ 91 ft					

APPROVAL OF THE CARBON TETRACHLORIDE EXPEDITED RESPONSE ACTION SOIL VAPOR MONITORING PLAN FOR OCTOBER 2001 THROUGH MARCH 2002

The Unit Managers for the Carbon Tetrachloride Expedited Response Action approve the attached Soil Vapor Monitoring Plan for October 2001 through March 2002.

A. C. Tortoso 10/25/01 Craig E. Cameron (for D. A. Faulk) 10/25/01

A. C. Tortoso
U.S. Department of Energy
Richland Operations Office

Date

D. A. Faulk
U.S. Environmental Protection Agency
Region X, Hanford Office

Date

October 24, 2001

CARBON TETRACHLORIDE EXPEDITED RESPONSE ACTION
SOIL VAPOR MONITORING PLAN FOR OCTOBER 2001 THROUGH MARCH 2002

Non-Operational Monitoring and Passive Soil Vapor Extraction Monitoring

This plan describes the non-operational monitoring and passive soil vapor extraction monitoring to be conducted during October 2001 through March 2002 in support of the expedited response action for carbon tetrachloride in the vadose zone of the 200 West Area. Operation of the soil vapor extraction system will be temporarily suspended during this time, and monitoring will be conducted at both the 216-Z-9 (Z-9) site and the 216-Z-1A/Z-18/Z-12 (Z-1A) site. Passive soil vapor extraction will be maintained at Z-1A wells during this time. Operating plans for use of the soil vapor extraction system will be submitted to the Unit Managers for approval prior to implementation.

Soil vapor monitoring will be conducted at vadose zone locations near the groundwater, the Plio-Pleistocene layer, and the ground surface at the Z-1A and Z-9 sites while they are not being actively remediated using SVE. Monitoring results will be reported at the Unit Manager Meetings. If carbon tetrachloride vapor concentrations increase such that the carbon tetrachloride contamination may impact human health or the environment (including groundwater), the Unit Managers will decide on the appropriate response to mitigate the problem (e.g., relocating the vapor extraction system to address the problem).

Scope: Monitor carbon tetrachloride soil vapor concentrations at selected probes and wells during non-operation of the soil vapor extraction (SVE) system (Tables 1 and 2). All of the probes and wells will be "non-operational," i.e., they will not be connected to the SVE system. Approximately eight non-operational wells will have a passive soil vapor extraction system installed at the wellhead.

Passive soil vapor extraction is a remediation technology that uses naturally induced pressure gradients between the subsurface and the surface to drive soil vapor to the surface. In general, falling atmospheric pressure causes subsurface vapor to move to the atmosphere through wells, while rising atmospheric pressure causes atmospheric air to move into the subsurface. The passive soil vapor extraction systems will continue to be used to remove carbon tetrachloride from the vadose zone.

All of the passive extraction wells will vent through aboveground canisters containing Granular Activated Carbon (GAC). Each system also has an in-line, replaceable cartridge of GAC for sampling upstream of the canister of GAC. The GAC cartridges will be sampled and analyzed periodically to provide a passive, time-integrated measure of the amount of mass removed through the well. Up to three passive systems will also be instrumented to measure and record the flow rate and carbon tetrachloride vapor concentration on an hourly basis; these data can be used to calculate an hourly estimate of the amount of mass removed.

For monitoring the non-operational probes and wells, the components of this scope are:

- Collect soil vapor samples using the rebound study sampling method and sampling pump (Rohay 1997)
- Analyze soil vapor samples for carbon tetrachloride using B&K at field screening level QC-1 (BHI-QA-03)
- Evaluate concentration trends for ERC
- Report results to 200-PW-1 Unit Managers
- Include results in annual reports

For monitoring the passive soil vapor extraction system wells, the components of this scope are:

- Change out the used, in-line GAC sample cartridges and replace with clean GAC sample cartridges
- Sample the GAC and send the GAC samples to an off-site laboratory for analysis of carbon tetrachloride (Sampling Authorization Form B99-093)
- Download the dataloggers and B&K instruments
- Evaluate concentration trends for ERC
- Report results to 200-PW-1 Unit Managers
- Include results in annual reports

Purpose and Objectives: The purpose of non-operational monitoring is to measure carbon tetrachloride concentrations in the vadose zone during the shutdown of the SVE system.

The objectives of monitoring the non-operational wells and probes are (1) to be cognizant of carbon tetrachloride concentrations and trends near the vadose-atmosphere and vadose-groundwater interfaces to ensure that non-operation of the SVE system is not negatively impacting atmosphere or groundwater; and (2) to be cognizant of carbon tetrachloride concentrations and trends near the lower permeability Plio-Pleistocene layer to provide an indication of concentrations that can be expected during restart of SVE operations and to support selection of on-line wells.

The objectives of monitoring the passive soil vapor extraction system wells, which are all open near the vadose-groundwater interface, are: (1) to be cognizant of the carbon tetrachloride concentrations and trends near the vadose-groundwater interface; and (2) to quantify the mass of carbon tetrachloride removed using this technology. The instrumented systems will be operated to provide a long-term record of passive extraction data, particularly contaminant concentrations in the extracted vapor and mass removal rates.

Duration: Non-operational monitoring and passive soil vapor extraction monitoring will be conducted from October 2001 through March 2002 during FY 2002. It is anticipated that non-operational and passive extraction monitoring will be continued from April through September 2002 during operation of the SVE system.

Monitoring Frequency: Monitoring will be conducted monthly. It is assumed that (1) the ERC

sampler(s)/geologist will spend approximately 2 days/month collecting and analyzing samples, shipping passive GAC samples to offsite laboratories, and downloading data; and (2) the ERC technical lead will spend approximately 1 day/month analyzing and reporting the results.

Monitoring Locations: Locations were selected to focus carbon tetrachloride monitoring near the vadose-atmosphere and vadose-groundwater interfaces and near the Plio-Pleistocene layer (Table 1). At the recommendation of the ERC technical lead, and with approval from the ERC task lead, these monitoring locations could be revised based on developing trends, accessibility, and/or recommendations of the field personnel. The 200-PW-1 Unit Managers will be advised of any changes to the monitoring locations. Monitoring locations are shown on Figure 1.

Note: During FY97, FY98, and FY99, carbon tetrachloride concentrations and trends were also monitored at shallow soil vapor probes (1.5 m deep). In light of the sporadic and low concentrations detected at these shallow soil vapor probes, shallow monitoring was not conducted during FY00 and FY01 and will not be conducted during FY02.

Data Management: The field screening data obtained from non-operational wells and probes are entered into a controlled field logbook, which is maintained by ERC Document & Information Services. The ERC technical lead organizes and maintains spreadsheets of the field screening data on a desktop computer. The field screening data are included in the annual performance evaluation report.

The laboratory data obtained from the GAC samples on the passive extraction wells are entered into HEIS. A hardcopy of the data and associated paperwork is maintained by ERC until transmitted to Hanford records holding. The data collected from the dataloggers and B&Ks are stored on ERC network drives that are backed up daily. The ERC technical lead organizes and maintains spreadsheets of all the passive extraction data on a desktop computer. The passive extraction data will be included in the annual performance evaluation report.

References:

BHI-QA-03, ERC Quality Assurance Program Plans, Procedure 5.2, Onsite Measurements Quality Assurance Program Plan

Rohay, V.J., 1997, Rebound Study Report for the Carbon Tetrachloride Soil Vapor Extraction Site, Fiscal Year 1997, BHI-01105, Rev. 0

Table 1. Distribution of Selected Monitoring Locations.

Target Zone	Number of Monitoring Locations		
	Z-1A	Z-9	Total
Near-surface (3-20 m below ground surface)	5	6	11
Plio-Pleistocene (25-45 m below ground surface)	5	5	10
Groundwater (50-65 m below ground surface)	8[a]	1	9
Total	18	12	30

[a] Approximately eight available monitoring locations near the vadose/groundwater interface in the Z-1A area are being monitored as part of the passive soil vapor extraction system network (Table 2).

Table 2. Wells and Probes Selected for Non-Operational Monitoring and Passive Soil Vapor Extraction Monitoring.

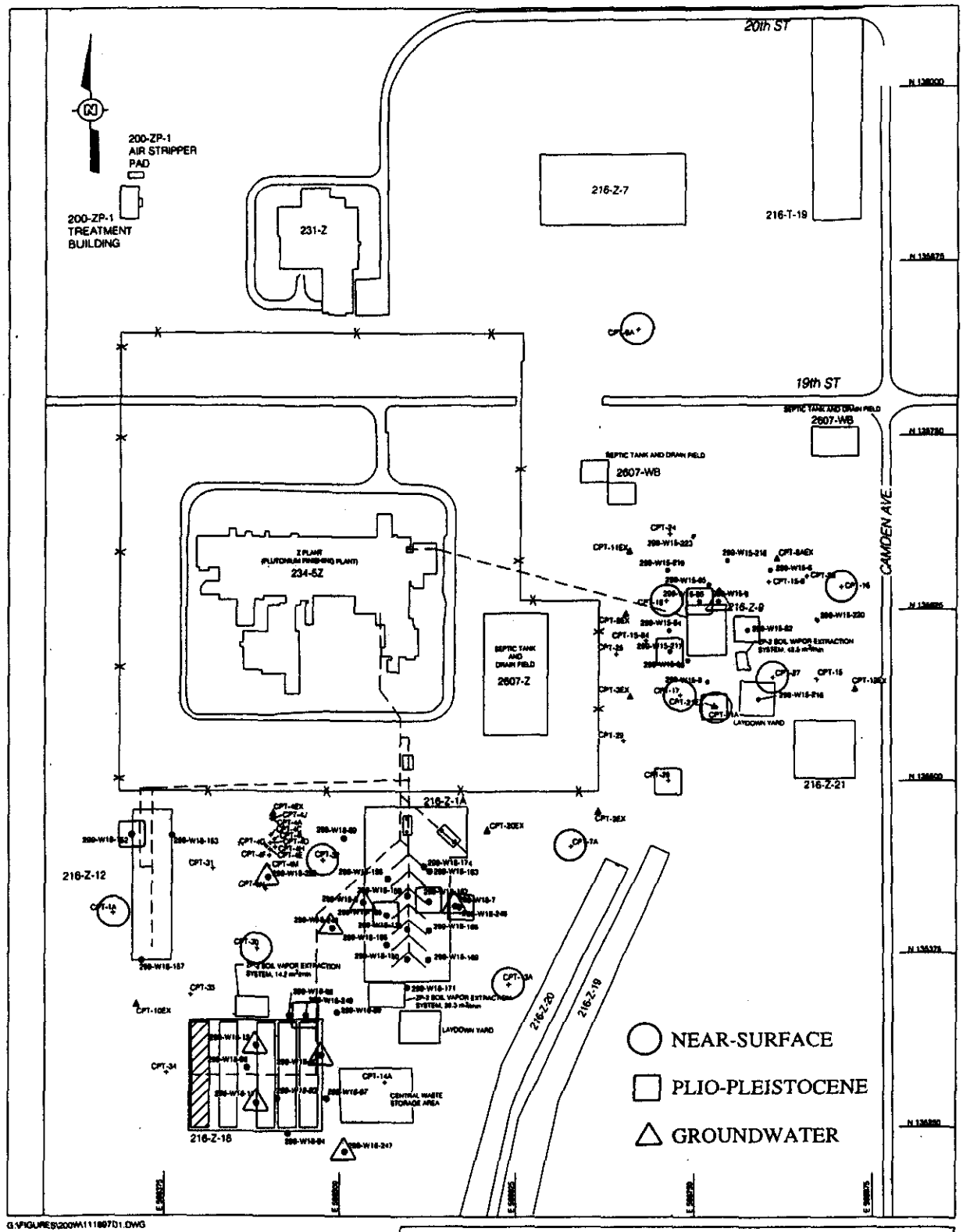
Target Zone	Z-9	Depth (m)	Comment	Z-1A	Depth (m)	Comment
near-surface	CPT-17 10 ft (blue)	3	southwest of Z-9	CPT-32 25 ft (green)	8	west of Z-1A
near-surface	CPT-18 15 ft (white)	5	northwest of Z-9	CPT-30 28 ft (green)	9	north of Z-18 (middle of Z-1A/Z-18/Z-12 field)
near-surface	CPT-16 25 ft (blue)	8	east of Z-9	CPT-13A 30 ft (blue)	10	southeast of Z-1A
near-surface	CPT-27 33 ft (red)	10	southeast of Z-9	CPT-7A 32 ft (yellow)	10	farfield northeast of Z-1A
near-surface	CPT-21A 45 ft (green)	14	south of Z-9	CPT-1A 35 ft (black)	11	west of Z-12
near-surface	CPT-9A 60 ft (blue)	18	farfield north of Z-9			
Plio-Pleisto	W15-82	25	east side of Z-9	W18-165	33	within Z-1A
Plio-Pleisto	CPT-21A 86 ft (red)	26	south of Z-9	W18-152	34	northwest corner of Z-12
Plio-Pleisto	CPT-28 87 ft (red)	27	farfield south of Z-9	W18-167	37	within Z-1A
Plio-Pleisto	W15-217	35	southwest corner of Z-9	W18-249	41	northeast corner of Z-18
Plio-Pleisto	W15-95L	44	north side of Z-9	W18-248	41	east side of Z-1A
Gw	W15-9L	57	north of Z-9, 11 m from W15-32 extraction well	W18-6L*	60	west side of Z-1A
Gw				W18-7*	57	east side of Z-1A
Gw				W18-10L*	55	east side of Z-18
Gw				W18-11L*	60	Z-18
Gw				W18-12*	60	Z-18
Gw				W18-246L*	52	west of Z-1A
Gw				W18-247L*	51	southeast of Z-18
Gw				W18-252L*	53	west of Z-1A (middle of Z-1A/Z-18/Z-12 field)

* Passive soil vapor extraction wells

Note: Colors refer to the color coding on the soil vapor probe tubing.

October 24, 2001

Figure 1. Location of Wells and Probes Selected for Non-Operational Monitoring and Passive Soil Vapor Extraction Monitoring



SCALE 1:3000

30 0 30 60 120 METERS

LEGEND

+ CPT-33	CONE PENETROMETER DEEP SOIL VAPOR PROBE (>2 m DEPTH) LOCATION AND NUMBER DESIGNATION
▲ CPT-4EX	CONE PENETROMETER SOIL VAPOR EXTRACTION WELL LOCATION AND NUMBER DESIGNATION
● 299-W15-82	200-ZP-2 SOIL VAPOR EXTRACTION/MONITORING WELL LOCATION AND NUMBER DESIGNATION
216-Z-18	LIQUID WASTE DISPOSAL SITE

October 24, 2001

Unit Managers' Meeting
October 25, 2001
200-TW-1 and 200-TW-2 Status

TW-1/2 Drilling Progress				
216-T-26 Crib (Borehole C3102)				
Date	Borehole Depth (ft, bgs)	Field Screening (cpm)	Samples	
			HEIS Number	Depth (ft, bgs)
6/24-25	0 – 14.7	< 2X BG	N/A	N/A
6/25-26	14.7 – 26	14,000	B125Y2 B125X3	180-20.5 22 – 24.5
6/26-27	26 – 34	600,000	B125Y4	27.2 – 29.8
6/27-28	34 – 47	780,000	B125X2	34 – 36.5
6/28-29	47 – 60.5	3,500	N/A	N/A
7/1-2	60.5 – 85	< BG	B125X5 B125X6 (dup)	67.3 – 69.8
7/2-3	85 – 102	< BG	B125Y9	92 – 94.5
7/3-4	102 – 122	< BG	N/A	N/A
7/5-6	122 – 143.5	< BG	N/A	N/A
7/8-9	143.5 – 152	< BG	B125X7	147.5 – 148.5
7/9-10	152 – 167	< BG	N/A	N/A
7/10-11	167 – 177	< BG	N/A	N/A
7/11-12	177 – 187	< BG	N/A	N/A
7/12-13	187 – 198.8	< BG	B12CR8	197.5 – 198.8
7/15-16	198.8 – 206	< BG	N/A	N/A
7/16-17	206 – 220	< BG	N/A	N/A
7/17-18	220 – 227 (TD)	< BG	B12C15	226 - 227

216-B-38 Trench (Borehole C3104)				
Date	Borehole Depth (ft, bgs)	Samples		
		HEIS Number	Depth (ft, bgs)	Field Screening* (cpm or mR/hr)
7/31-8/1	0 – 5.0	B1267C	3.5 - 5.0	360 cpm
8/1 - 8/2	5.0 - 20.5	B12C68	9.5 -12.0	250 cpm
		B12C63	14.5 - 15.5	5 mR
		B12C64	18.0 - 20.5	11 mR
8/2 - 8/3	20.5 - 36.0	B12DB8	22.5 - 25.0	15 mR
		B12DB9	29.0 - 31.5	14 mR
8/5 - 8/6	36.0 - 60.5	B12C88	37.5 - 40.0	40K cpm[a]
		B12C69	52.0 - 54.5	< 5K cpm[a]
8/6 - 8/7	60.5 - 112.0	B12C71	97.5 - 100.0	NA
8/7 - 8/8	112.0 - 177.0	B12C72	147.5 -150.0	NA
8/8 – 8/9	177.0 – 224.0	B12C73	197.5 - 200	< BG
8/9 – 8/10	224.0 – 263.5	B12C74	261.0 – 263.5	< BG

Unit Managers' Meeting
October 25, 2001
200-TW-1 and 200-TW-2 Status

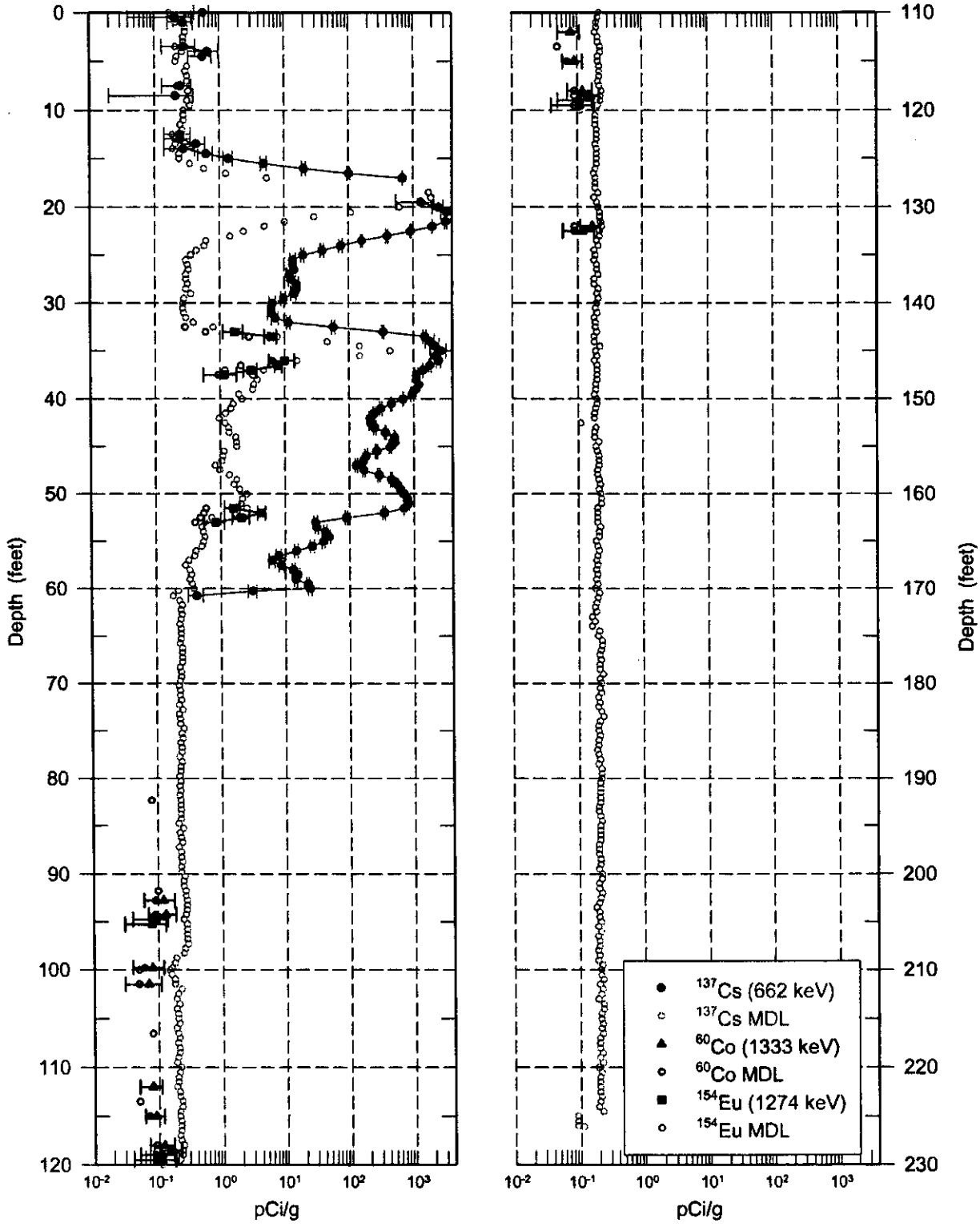
216-B-7A Crib (Borehole C3103)				
Date	**Borehole Depth (ft, bgs)**	**Samples**		
		HEIS Number	**Depth (ft, bgs)**	**Field Screening* (cpm or mR/hr)**
8/21 - 8/22	0.0 - 8.0	B12MH5	2.5 - 5.5	500 cpm β/γ
		B12MH6	5.5 - 8.0	650 cpm β/γ
8/22 - 8/23	8.0 – 22.5	B12MH7	10.0 – 12.5	< BG
		B12MH4	12.5 – 15.0	< BG
		B12C89	15.0 – 21.0	225 cpm α 71E+06 cpm β/γ 8 mR β 3 mR γ
8/26 – 8/27	22.5 – 47	B12ML4	25 – 27.5	800 cpm α 1500 mR β 100 mR γ
		B12ML5	30 – 32.5	100 cpm α 100 mR β 20 mR γ
		B12ML6	35 – 37.5	20 cpm α 1 mR β <0.5 mR γ
8/27 – 8/28	47 – 56.5	B12ML7	48.5 – 50.5	< BG
		B12C91 (split)		
9/21	54 – 114	B12MK5	72.5 – 75	BG
		B12MK6	97.5 - 100	BG
9/24	114 – 135	N/A	N/A	N/A
9/25	135 - 195	B12MJ1	147.5 - 150	BG
9/26	195 – 222.2	B12MJ2	219- 221.5	BG

* Highest direct contact reading on split spoon or drive barrel from sample interval.
< BG = Readings were less than background.

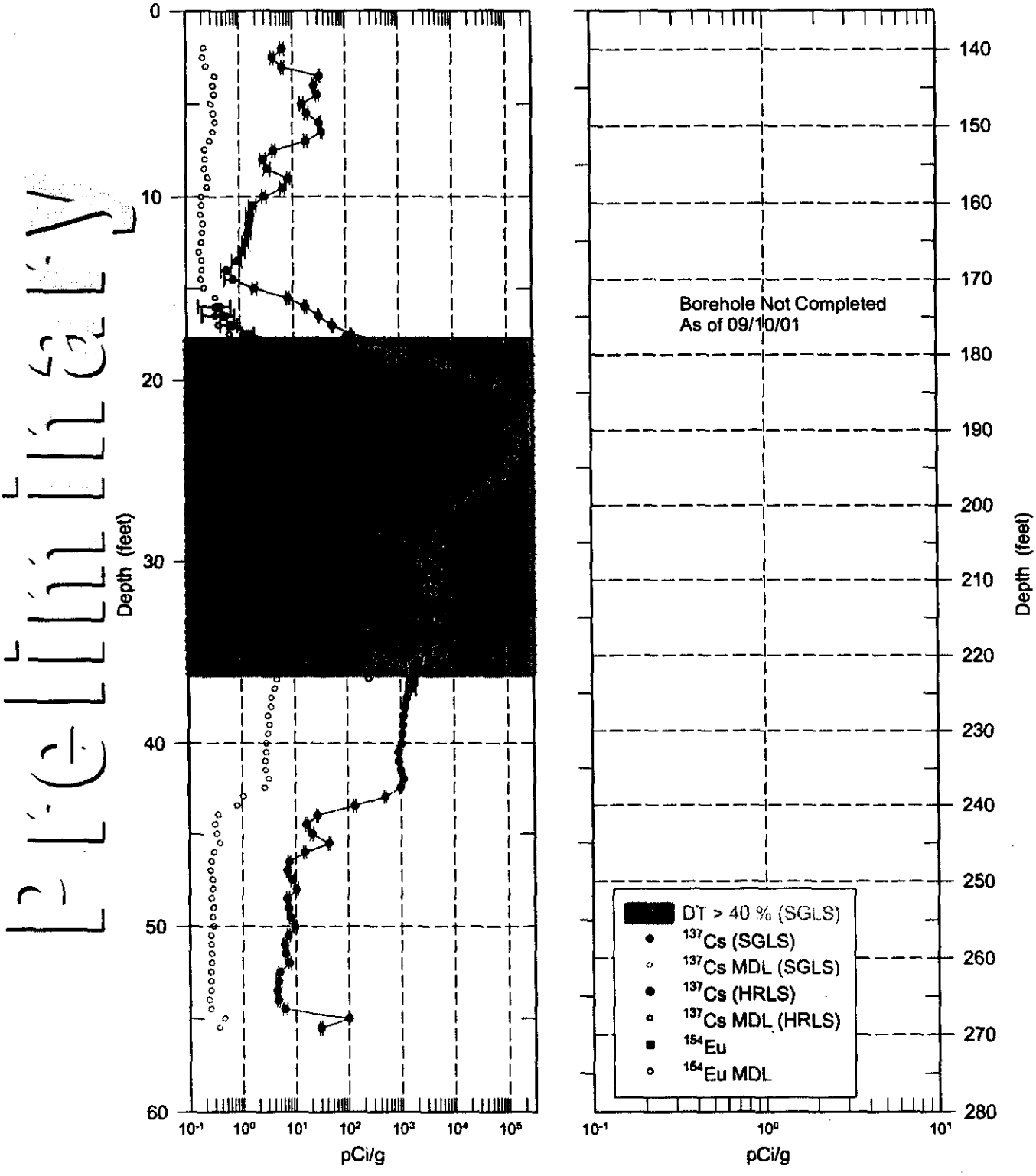
At B-7A, 5 additional samples were collected from the bottom of the trench to approximately 40 ft bgs for S&T. Samples were also collected every 10 ft for use by RPP.

C3102

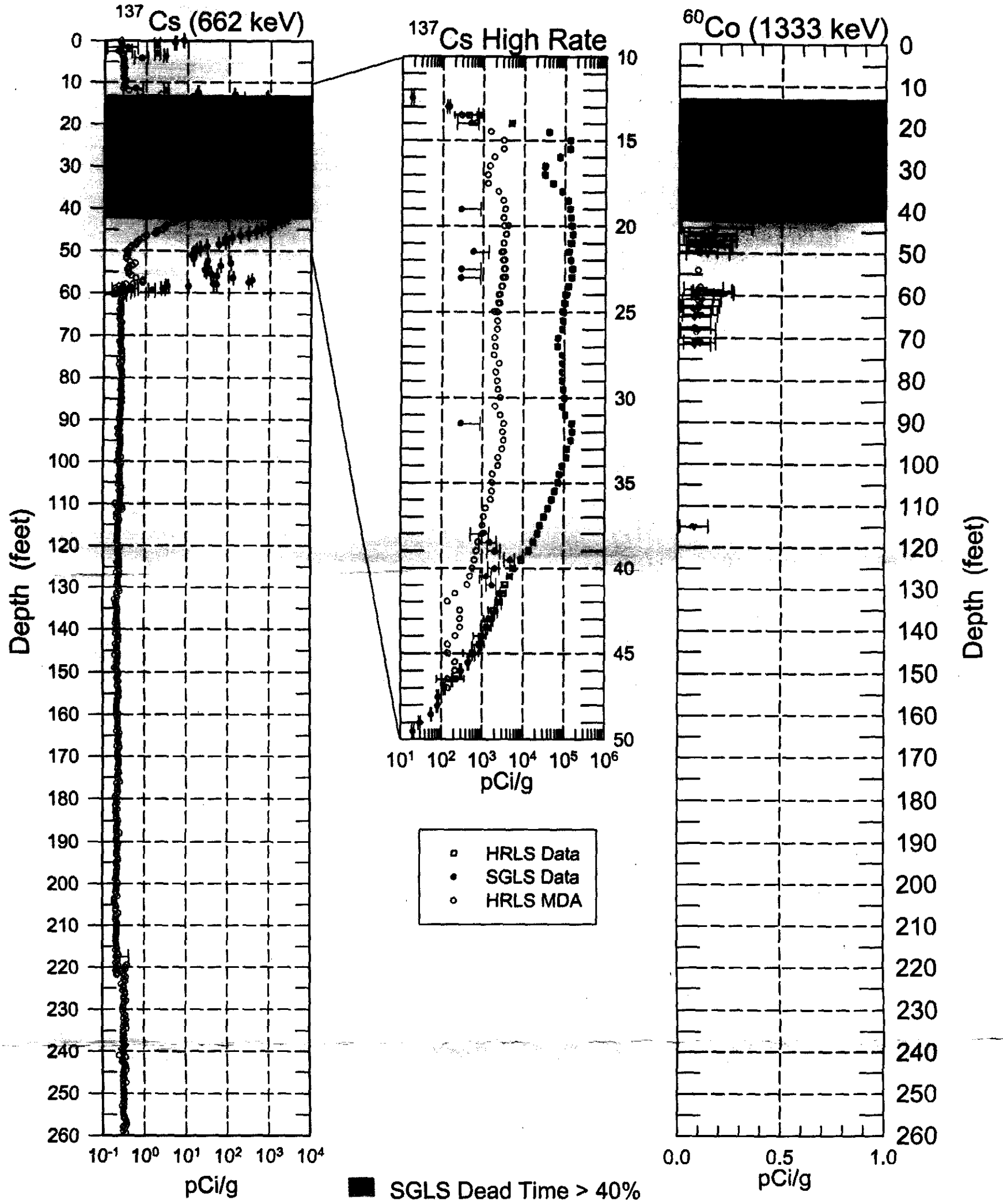
Man-Made Radionuclide Concentrations



C3103
Man-Made Radionuclide Concentrations



C3104
Man-Made Radionuclide Concentrations



WCP-2001-0003, Rev. 0

200-CS-1 CHEMICAL SEWER OPERABLE UNIT REMEDIAL INVESTIGATION/FEASIBILITY STUDY

WASTE CONTROL PLAN

Work Scope Description: 200-CS-1 Chemical Sewer Operable Unit (OU) characterization. Characterization will be performed at 200-CS-1 waste sites. The scope of activities involves the excavation of test pits and/or shallow auger holes and the drilling of deep boreholes at the 216-A-29 Ditch, 216-B-63 Trench, and 216-S-10 Pond and Ditch. Soil samples from the vadose zone will be collected and analyzed for radiological and chemical contaminants of concern and physical properties of interest. Geophysical logging will also be conducted at the 200-CS-1 waste sites. See Attachment 1 for additional information.

List Constituents of Concern: Contaminants of concern at the 200-CS-1 OU consist of radionuclides, metals, anions, volatile organics, and semi-volatile compounds (See DOE/RL-99-44, Table 3-7).

Site Description: The 200-CS-1 OU waste sites are located in the 200 East and 200 West Areas of the Hanford Site in southeastern Washington State. The 200-CS-1 OU has seven waste sites that received mostly chemical sewer water from a variety of 200 Area operations. Attachments 2, 3, and 4 show the locations of the waste sites to be characterized; waste generated during characterization activities will be managed as investigation-derived waste (IDW). IDW will also be generated at during borehole geophysical logging at the 216-S-10 Ditch, as well as at other 200-CS-1 OU waste sites. Additional information on each of the four sites is presented in the *200-CS-1 Operable Unit RI/FS Work Plan and RCRA TSD Unit Sampling Plan* (DOE/RL-99-44) and the Sampling and Analysis Plan (Appendix B of the work plan).

Reference: 200-CS-1 Work Plan (DOE/RL-99-44) **Rev** 0 **Date Approved** 10/30/00

Preparer: Chris Cearlock _____ **Date** 10/02/01
PRINT/SIGN NAME

Impact Level N/A

Project Task Lead B. H. Ford _____ 10/9/01 **IDW Coordinator:** R. H. Bidstrup

Planned Start and Finish Dates: **From** 10/15/01 **To** 09/30/03

Waste Storage Facility ID Number(s) N/A

Field Screening Methods

Method	Frequency	Reference	Detection Range	Analyst
PID, 11-7 eVV lamp	Continuous	DOE/RL-99-44, Appendix B	0 to 1,000 ppm	SSO
Alpha/beta/gamma detector	Continuous	DOE/RL-99-44, Appendix B	100 dpm alpha probe/1,921 dpm beta-gamma probe	RCT
Dose rate, beta-gamma	Continuous	DOE/RL-99-44, Appendix B	0.5 mR/hr	RCT

Laboratory Methods (Constituents of concern)

Method	Frequency	Reference	Detection Range	Analyst
See Tables B2-1 and B2-2	See Tables B3-3 through B3-5	DOE/RL-99-44, Appendix B	See Tables B2-1 and B2-2	Offsite Laboratory

WASTE CONTROL PLAN

Drill Site Coordinate Location: 216-A-29 Ditch – E575650, N135887 to E576246, N136626. 216-B-63 Trench – E574103, N137230 to E574573, N137086. 216-S-10 Ditch and 216-S-10 Pond – E566911, N133764 to E566346, N133165.

Waste Container Storage Area(s) Coordinate Location(s): 216-A-29 Ditch waste: refer to Attachment 2; *216-B-63 Trench waste: refer to Attachment 3; 216-S-10 Ditch and 216-S-10 Pond waste: refer to attachment 4.*

Requirements for Soil Pile Sampling (if any): Not applicable – Soils will be returned to the excavated area upon completion of sampling of the trenches.

Nonregulated Material Disposal Location(s): A Subtitle D landfill. Nonregulated soil and liquid (decontamination fluid) may be returned/disposed to the ground at or near point of excavation, the location of which will be documented in the field logbook.

Sketch of Work Site: Attachments 2, 3, and 4 identify sample locations and waste container storage area(s) at the 216-A-29 Ditch, 216-B-63 Trench, and 216-S-10 Pond and Ditch, respectively.

APPROVALS (Print/Sign Name and Date)

10-25-01.
Lead Regulatory Agency Representative

10/8/01
IDW Coordinator

10/11/01
DOE-RL

D. Blankenship for RJ Fabre per Telecon
J. Dickel 10/4/01
Cognizant Field Engineer

Distibution:

R. H. Bidstrup	T2-05	B. H. Ford	H0-19	C. D. Wittriech H9-03
R. J. Fabre	X5-50	J. Price	B5-18	C. S. Cearlock H9-01
B. L. Foley	H0-12	D. R. Sherwood	B5-01	

DESCRIPTION OF WORK

This waste control plan governs the management of investigation-derived waste (IDW) for the representative sites to be investigated under the 200-CS-1 Chemical Sewer Group Operable Unit (OU) (DOE-RL, 2000). These waste sites include the 216-A-29 Ditch, 216-B-63 Trench, 216-S-10 Ditch, and 216-S-10 Pond. All of the sites are *Resource Conservation and Recovery Act of 1976* (RCRA) treatment, storage, and disposal (TSD) units. Characterization of these sites will provide data needed to refine the preliminary conceptual contamination distribution models, support an assessment of risk, and select a preferred remedial action(s). The scope of work involves the excavation of test pits, shallow auger hole(s), and the drilling of boreholes. Soil samples, and spectral gamma and neutron logging will be collected and analyzed for potential radiological and chemical contaminants of concern and physical properties.

Borehole geophysical logging may also be conducted at other waste sites associated with the 200-CS-1 OU as identified in Attachment 5. During the investigation other wells within the 200-CS-1 OU may be found that are conducive for geophysical logging. These wells would then be added to this scope. No drilling or sampling will be conducted at these waste sites; only IDW associated with personal protective equipment and other miscellaneous solid waste (MSW) will be generated. The IDW from geophysical logging activities will be designated using the waste disposal profiles generated for the characterization activities, by sampling the waste, or by process knowledge.

Manage any wastes generated from this project in accordance with BHI-EE-10, *Waste Management Plan, Part II*, Procedure 9.0, "Control of CERCLA and Other Past-Practice Investigation-Derived Waste," which identifies the requirements and responsibilities for containment, labeling, and tracking of IDW. Procedure 9.0 was developed to comply with the *Strategy for Management of Investigation Derived Waste* (Ecology et al. 1999), or as amended. An overview of the waste management strategy for the 200 Area waste sites is presented in Appendix E of the *200 Areas Remedial Investigation/Feasibility Study Implementation Plan – Environmental Restoration Program* (DOE-RL 1999). This WCP provides the relevant information mandated in Section 7.1.1 "Waste Control Plan" of Procedure 9.0, but does not restate the applicable requirements detailed throughout the procedure. Exceptions, clarifications, or additions to the requirements of Procedure 9.0 are identified in this narrative portion of this WCP.

Additional guidance to the control of soil and decontamination fluid IDW from test pits is detailed in BHI-EE-01, *Environmental Investigations Procedures*, Procedure 5.2, "Test Pit Excavation in Contaminated Areas." The control of soil, slurry, decontamination fluid, and purgewater IDW from the soil boring and well installation is detailed in BHI-EE-01, Procedure 1.11 "Purgewater Management," and Section 6.2, "Field Cleaning and/or Decontamination of Geoprobe and Drilling Equipment," and in BHI-EE-02, *Environmental Requirements*, Section 14.0, "Drilling, Maintaining, Remediating, and Decommissioning Resource Protection Wells, Geoprobe and Geotechnical Soil Borings."

Waste Minimization

Minimize waste by returning test pit spoils back to the excavated area and nonregulated soils (below applicable radionuclide concentration limits, dangerous waste limits, and the *Model Toxics Control Act* [MTCA] soil cleanup standards) to the ground at or near the waste site,

decontaminating equipment for reuse, and compacting (through non-mechanical means) miscellaneous solid waste (MSW), as defined in the *Environmental Restoration Program Strategy for Management of Investigation Derived Waste* (Ecology et al. 1999), to the extent practicable.

Waste Streams

Expected wastes include contaminated soils; decontamination fluid; purgewater; slurry waste; and MSW such as disposable personal protective equipment, sampling equipment, wipes, rags, paper, and plastic. Materials will be screened in the field with instruments, and wastes will be segregated and managed in accordance with requirements presented below.

Waste Generation and Management

As stated in Section 2.4.2.4 of the 200 Areas Implementation Plan (DOE-RL 1999), the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA) permitting exemption for onsite activities will be extended to CERCLA, RCRA past-practice (RPP), and TSD units (e.g., air permits will not be required), except that RPP and TSD units will be incorporated into the Hanford Facility RCRA Permit. Therefore, requirements such as 90-day accumulation will not apply to IDW generated from these TSD units.

Record all waste generated in a logbook, including such details as the location and type of waste, depth of sample, date of initial placement into container, date the container was sealed, and Package Identification Number (PIN).

Store wastes at site-specific waste container storage areas until analytical data are evaluated for proper waste designation. Waste from these sites may be consolidated into one container storage area, if necessary. The preferred method of disposal of waste is at the Environmental Restoration Disposal Facility (ERDF) if it meets the waste acceptance criteria.

If, after characterization of the waste is completed, the waste must be stored for longer than six months, RL will obtain concurrence from the lead regulatory agency on the current storage, treatment, and disposal options and schedule for disposition of the waste.

Details on the types and management of expected wastes are provided in the following subsections.

Miscellaneous Solid Waste

Manage MSW as "Suspect Dangerous" or "Suspect Mixed" waste as detailed in Procedure 9.0. Place MSW into plastic bags and taped closed. Label the bags with the borehole or test pit number where the waste was generated and place in appropriately labeled drums or boxes in the designated storage area. Disposition containers of MSW using analytical results or process knowledge associated with the contaminated media contacted.

IDW generated at the 216-A-29 Ditch will be managed as U-133 hazardous waste because of the potential for hydrazine, which is known to have been released to the ditch.

Vadose Zone Drill Cuttings

Screen drill cuttings using field instruments and containerize in mid-performance coated drums with 10-mil reinforced plastic liners as required for potentially mixed waste. Contaminated soil is expected to be intercepted in discrete intervals in each of the boreholes, the field screening results will be used to segregate the waste. Stage the containers at the designated storage areas and dispositioned using analytical results/ process knowledge.

Cuttings generated from the 216-A-29 Ditch will be managed as U-133 hazardous waste because of the potential for hydrazine, which is known to have been released to the ditch.

Decontamination Fluids

Fluids (water) will generally be used to field decontaminate excavation and drilling equipment, and sampling tools. Discharge aqueous waste generated from the decontamination of equipment to the ground if sample analysis of the decontamination water confirms it meets the criteria established in the Hanford Site Purgewater Agreement (Izatt 1990), or as amended. If the waste exceeds those criteria, the disposal options include the Hanford Site Purgewater Treatment and Storage Facility or the Hanford Site Effluent Treatment Facility.

Fluids generated from the 216-A-29 Ditch will be managed as U-133 hazardous waste because of the potential for hydrazine, which is known to have been released to the ditch.

Test Pit Soils

Collection of soils associated with test pits is not required per the *Environmental Restoration Program Strategy for Management of Investigation Derived Waste* (Ecology et al. 1999). Field screening will be used to manage and segregate uncontaminated soils from contaminated spoils.

Test pits activities will generate three types of IDW: soils, decontamination fluid, and MSW. MSW and equipment will be managed according to BHI-EE-10, Part II, Procedure 9.0. Soils and decontamination fluids will be managed according to this section, Section C1.2.3, and BHI-EE-01, Procedure 5.2, "Test Pit Excavation in Contaminated Areas."

Test pits will be excavated and sampled with a backhoe. Soil removed from the excavation will be screened and segregated into two piles: clean and contaminated. The contaminated soils will be stockpiled on 10-mil plastic. The segregation will be based on action levels of 5 ppm for volatile organic compounds and twice background for radiological contamination. Additional radiological action levels are specified in BHI-EE-01, Procedure 5.2, Subsection 4.3, e through g. All test pits shall be backfilled with soil from the excavation. Soil shall be returned to the test pit in the reverse order of removal (i.e., the last material removed is placed back into the hole first). The plastic liner may also be disposed of with the contaminated soils into the test pit to minimize the risk of personnel contact. Clean soils will be placed on top of the contaminated soils followed by revegetation.

Purgewater Waste

All purgewater will be collected and managed in compliance with the *Strategy for Handling and Disposal of Purgewater at the Hanford Site, Washington* (DOE 1990) and in accordance with BHI-EE-01, Procedure 1.11, "Purgewater Management."

Purgewater containing constituents in excess of collection criteria will be collected and stored in purgewater Modutanks. Purgewater containing constituents in concentrations lower than the collection criteria will be taken to other areas on the site and discharged directly to the soil.

Purgewater generated from the 216-A-29 Ditch will be managed as U-133 hazardous waste because of the potential for hydrazine, which is known to have been released to the ditch.

Slurry Waste

Slurry waste including groundwater slurries and drilling fluids will be containerized, staged at a designated storage area, and dispositioned using analytical results. Containerized slurry waste that contains contaminants above established release criteria will be managed in accordance to BHI-EE-10, Part II, Procedure 9.0, "Control of CERCLA and Other Past-Practice Investigation-Derived Waste." Slurry waste containing hazardous and radiological constituents below the release criteria will be returned to the ground at or near the point of origin.

Management of Waste Containers

Store IDW inside the applicable waste storage area. Mark and label containers awaiting analytical results. Conduct inspections of 'Suspect/Dangerous or Mixed Wastes' weekly to assess container integrity, container marking/labeling, physical container placement, storage area boundaries/identification/warning signs, and spill control. Document inspections on a Waste Inspection Check Sheet (form BHI-EE-244). At a minimum inspect all other containers monthly and document the inspections on form BHI-EE-244. Containers showing signs of deterioration will be identified on Form BHI-EE-244 and immediately overpacked or repackaged. Report spills or releases in accordance with BHI-MA-02, *ERC Project Procedures*. In the event of a spill or release, take appropriate immediate action to protect human health and the environment.

Waste containers generated from the 216-A-29 Ditch will be marked and labeled as U-133 hazardous waste because of the possibility of hydrazine, which was known to have been released to the ditch.

Final Disposal/Storage

Store all IDW inside appropriate waste container storage areas until receipt of analytical results from the remedial investigation and during the completion of the waste profiling. Waste profiles document waste stream characterization. The profiles are reviewed against the receiving facilities' waste acceptance criteria. Conduct characterization and designation in accordance with Attachment 1 of BHI-EE-10, *Waste Management Plan*. This activity requires determination on the following criteria: listed dangerous waste (*Washington Administrative Code* [WAC] 173-303-080, -081, and -082), toxic dangerous waste (WAC 173-303-100[5]), persistent waste (WAC 173-303-100), regulated for land disposal, applicability of characteristic waste

codes (WAC 173-303-090[2]-[8]), and presence of polychlorinated biphenyl (*Toxic Substances Control Act of 1976* and WAC 173-303-9904). Final disposal and storage must be in accordance with the select Treatment Storage and Disposal Facility's (TSD) waste acceptance criteria. The preferred TSD for IDW generated during this investigation is ERDF. Process knowledge may be used to include/exclude a radiological or chemical contaminant from the project and must be documented in an auditable manner. Determine the acceptability of near-surface (onsite) disposal of radiological wastes in accordance with the concentrations of radionuclides specified in Table B-1 or column 3 of Table 2 of Section 61.55 of 10 *Code of Federal Regulations* 61.

The IDW will be radiologically released when the waste meets applicable release levels detailed in BHI-EE-10, Part II, Procedure 8.0, "Release of Non-radioactive Waste." Nonradiologically contaminated dangerous waste may be shipped to an offsite facility, contingent upon the waste meeting the offsite disposal facilities' waste acceptance criteria and offsite determination of acceptability by the U.S. Environmental Protection Agency. IDW that cannot be treated to meet acceptance criteria for the approved disposal facility will remain on the waste site or in a centralized storage area pending disposal at an approved facility. Waste above radiological release levels that meets the ERDF waste acceptance criteria will be transported to ERDF for disposal (ERDF is an approved waste disposal facility).

Dispose of non-radioactive geologic IDW containing hazardous waste constituents below dangerous waste designation limits and MTCA Method B soil cleanup standards to the ground at or near the point of generation and documented in a field logbook. Waste that exceeds dangerous waste release or MTCA Method B limits and meets the ERDF waste acceptance criteria will be disposed at ERDF. IDW that does not meet the ERDF waste acceptance criteria will remain at the centralized storage area pending disposal at an appropriate facility. A case-by-case disposal determination will be made in instances where IDW exceeds the ERDF waste acceptance criteria. Any IDW requiring treatment prior to disposal requires approval by the lead regulatory agency.

MSW that does not require disposal at ERDF will be disposed in an appropriate solid waste disposal facility (Subtitle "D" landfill).

Records

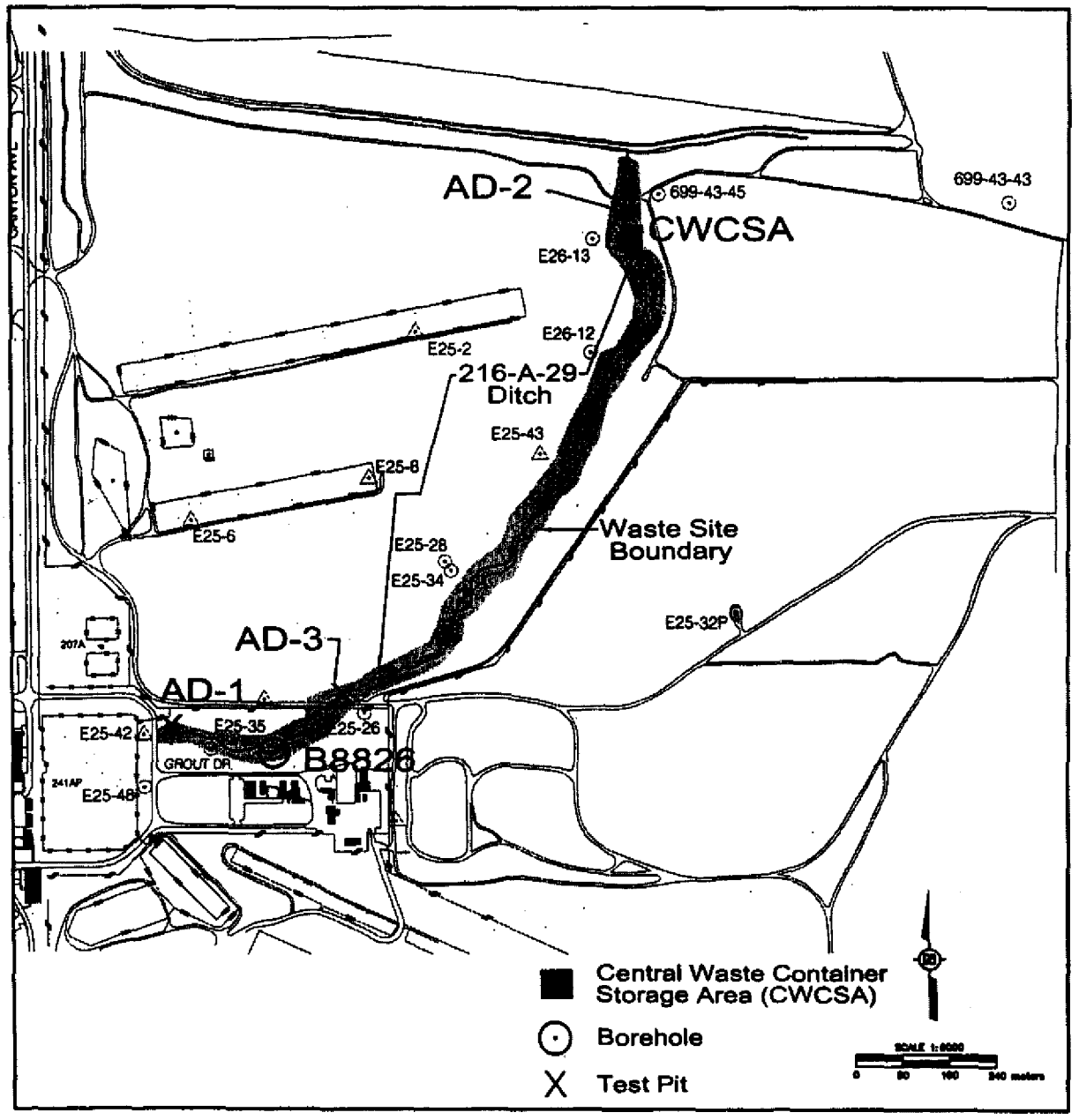
Forward original copies of all sampling and waste inventory documentation to the assigned waste transportation specialist to be included in the waste file and to initiate waste tracking in the Solid Waste Information Tracking System. Submit the waste file to Document and Information Services for inclusion into the project file following final waste disposition.

Estimate of IDW Quantities

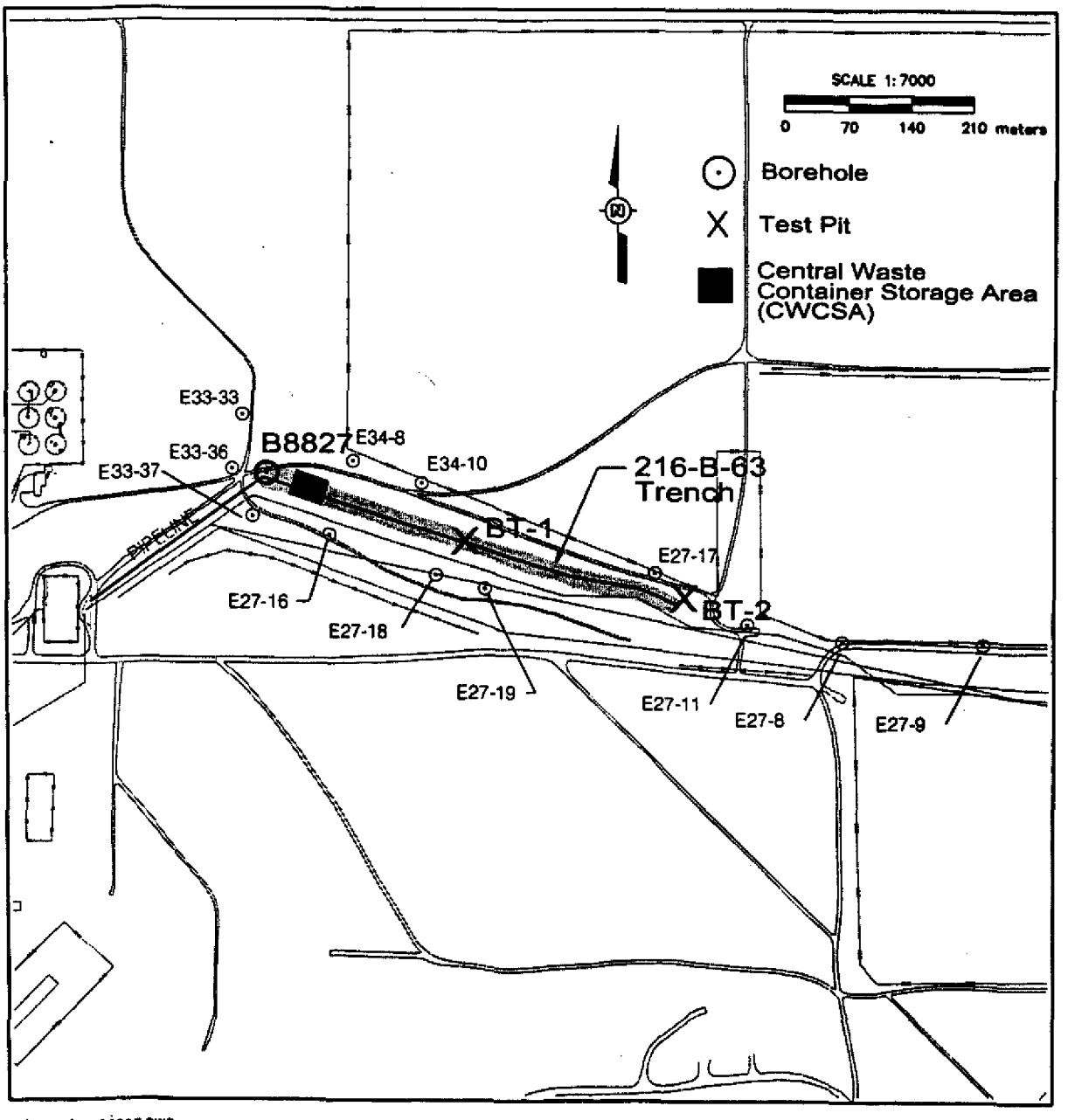
Estimates of the amount of waste that will be generated during this field investigation are as follows:

Soil Cuttings - 44 (55-gal) containers
MSW - 3 (55-gal) containers
Decon Fluids - 2 (55-gal) containers

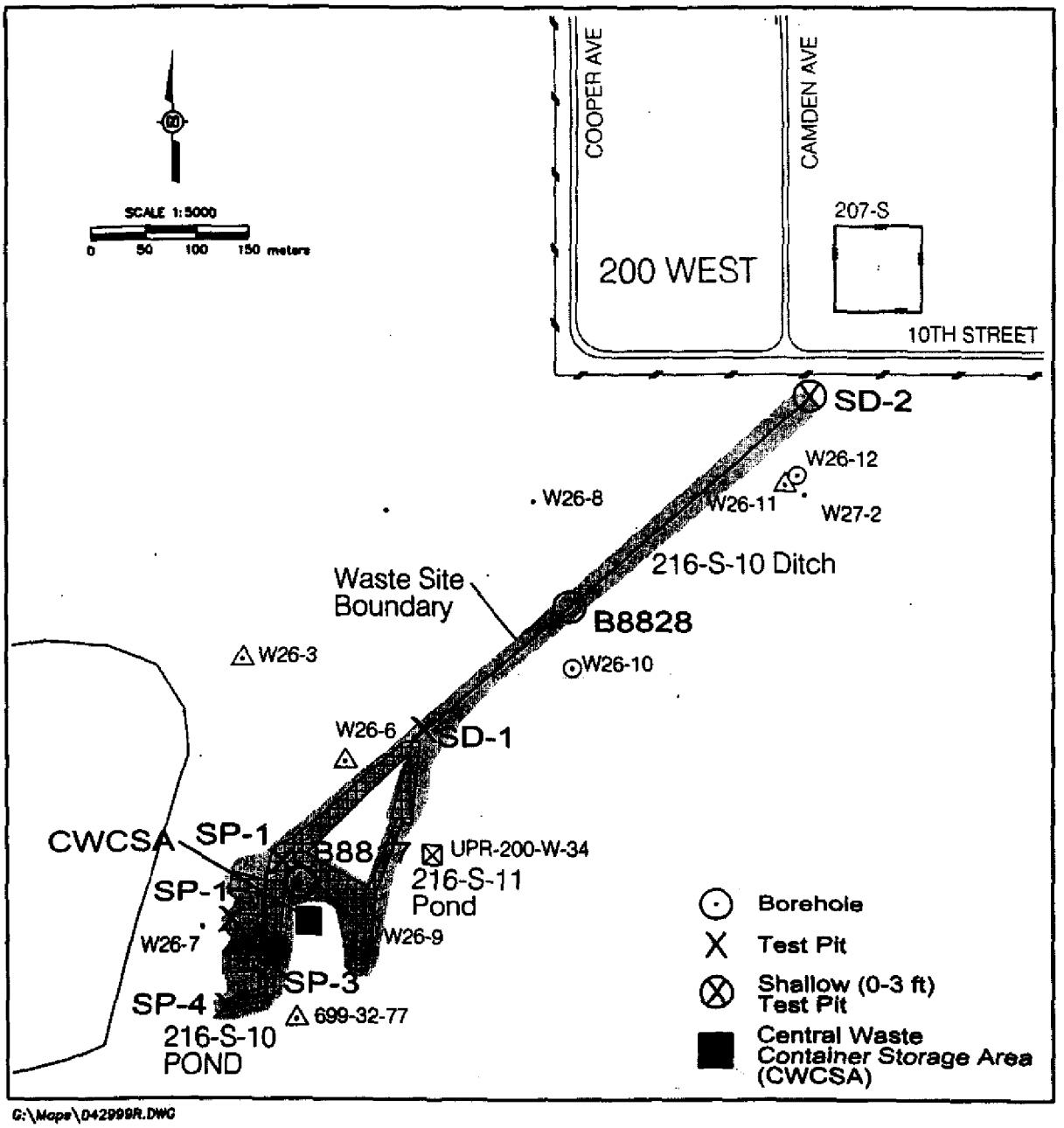
Attachment 2 - 216-A-29 Ditch Location Map and Waste Container Storage Area



Attachment 3 - 216-B-63 Trench Location Map and Waste Container Storage Area



Attachment 4 - 216-S-10 Ditch and 216-S-10 Pond Location Map and Waste Container Storage Area



Attachment 5 – WCP-2001-0003, Rev. 0
200-CS-1 Geophysical Data Collection Well List

Area	Operable Unit	Waste Site Code	Site Type	Hanford Well Name	Hanford Well ID
200E	200-CS-1	216-A-29	Ditch	NA	B8826
200E	200-CS-1	216-A-29	Ditch	299-E25-26	A4771
200E	200-CS-1	216-A-29	Ditch	299-E25-28	A4773
200E	200-CS-1	216-A-29	Ditch	299-E25-34	A4782
200E	200-CS-1	216-A-29	Ditch	299-E25-35	A4783
200E	200-CS-1	216-A-29	Ditch	299-E25-43	A4792
200E	200-CS-1	216-A-29	Ditch	299-E25-47	A4794
200E	200-CS-1	216-A-29	Ditch	299-E26-12	A4801
200E	200-CS-1	216-A-29	Ditch	299-E26-13	A4802
200E	200-CS-1	216-A-29	Ditch	699-43-45	A5180
200E	200-CS-1	216-B-63	Trench	NA	B8827
200E	200-CS-1	216-B-63	Trench	299-E33-36	A4861
200W	200-CS-1	216-S-10D	Ditch	NA	B8828
200W	200-CS-1	216-S-10D	Ditch	299-W26-8	A4994
200W	200-CS-1	216-S-10D	Ditch	299-W26-10	A4992
200W	200-CS-1	216-S-10P	Pond	699-32-77	A5131
200W	200-CS-1	216-S-10P	Pond	299-W26-6	A5445
200W	200-CS-1	216-S-10P	Pond	299-W26-7	A5446
200W	200-CS-1	216-S-10P	Pond	299-W26-13	B8817
200W	200-CS-1	216-S-11	Pond	299-W26-9	A4995
200W	200-CS-1	216-W-LWC	Crib	299-W14-10	A7334
200W	200-CS-1	216-W-LWC	Crib	299-W14-54	A7338
200W	200-CS-1	216-W-LWC	Crib	299-W14-55	A7339

NA - Not available; Boring may be completed as groundwater monitoring well.